

Sequence Listings:-

<110> Garvan Institute of Medical Research

Title of the Invention: Isoforms of the Human Vitamin D Receptor

<130> 91317

<140>

<141>

<160> 12

<170> PatentIn Ver. 2.0

SEQ ID NO: 1

<211> 96

<212> DNA

<213> Homo sapiens

<400> 1

```

gtttccttct tctgtcgggg cgccttggca tggagtggag gaataagaaa aggagcgatt 60
ggctgtcgat ggtgtcaga actgtctggag tggagg                                     96

```

SEQ ID NO: 2

<211> 1413

<212> DNA

<213> Homo sapiens

<400> 2

```

gtttccttct tctgtcgggg cgccttggca tggagtggag gaataagaaa aggagcgatt 60
ggctgtcgat ggtgtcaga actgtctggag tggagggaagc ctttgggtct gaagtgtctg 120
tgagacctca cagaagagca cccctgggct ccacttacct gccccctgct ccttcaggga 180
tggaggcaat ggcggccagc acttccctgc ctgaccctgg agactttgac cggaacgtgc 240
cccgatctg tggggtgtgt ggagaccgag ccactggctt tcacttcaat gctatgacct 300
gtgaaggctg caaaggcttc ttcaggcgaa gcatgaagcg gaaggcacta ttcacctgcc 360
ccttcaacgg ggaactgcgc atcaccaagg acaaccgacg ccactgccag gctgcccgc 420
tcaaacgctg tgtggacatc ggcatgatga aggagtcat tctgacagat gaggaagtgc 480
agaggaagcg ggagatgatc ctgaagcgga aggaggagga ggccttgaag gacagtctgc 540
ggcccaagct gtctgaggag cagcagcgca tcattgccat actgtctggac gccaccata 600
agacctacga cccacctac tccgacttct gccagttccg gcctccagtt cgtgtgaatg 660
atggtggagg gagccatcct tccaggccca actccagaca cactcccagc ttctctgggg 720
actcctcctc ctctgtctca gatcactgta tcacctcttc agacatgatg actcgtcca 780
gcttctccaa tctggatctg agtgaagaag attcagatga cccttctgtg accctagagc 840
tgtcccagct ctccatgctg cccacctgg ctgacctggc cagttacagc atccaaaagg 900
tcattggctt tgctaagatg ataccaggat tcagagacct cactctgag gaccagatcg 960
tactgctgaa gtcaagtgcc attgagggtca tcatgttgcg ctccaatgag tccttcacca 1020
tggacgacat gtcttgagc tgtggcaacc aagactacaa gtaccgcgtc agtgacgtga 1080
ccaaagccgg acacagcctg gagctgattg agccctcat caagttccag gtgggactga 1140
agaagctgaa cttgcatgag gaggagcatg tcctgtctat ggccatctgc atcgtctccc 1200
cagatcgctc tggggtgcag gacgcccgcg tgattgagc catccaggac cgctgtcca 1260
acacactgca gacgtacatc cgtgcccgc acccgcccc gggcagccac ctgctctatg 1320
ccaagatgat ccagaagcta gccgacctgc gcagcctcaa tgaggagcac tccaagcagt 1380
accgctgcct ctcttccag cctgagtga gcatgaagct aacgcccctt gtgtcgaag 1440
tgtttggcaa tgagatctcc tga                                     1463

```

005160 2340560

SEQ ID NO: 3
<211> 1382
<212> DNA
<213> Homo sapiens

<400> 3
gtttccttct tctgtcgggg cgccttggca tggagtggag gaataagaaa aggagcgatt 60
ggctgtcgat ggtgctcaga actgctggag tggaggggat ggaggcaatg gcggccagca 120
cttccctgcc tgacctgga gactttgacc ggaacgtgcc ccgatctgt ggggtgtgtg 180
gagaccgagc cactggcttt cacttcaatg ctatgacctg tgaaggctgc aaaggcttct 240
tcaggcgaag catgaagcgg aaggcactat tcacctgccc cttcaacggg gactgccgca 300
tcaccaagga caaccgacgc cactgccagg cctgccggct caaacgctgt gtggacatcg 360
gcatgatgaa ggagttcatt ctgacagatg aggaagtgca gaggaagcgg gagatgatcc 420
tgaagcggaa ggaggaggag gccttgaagg acagtctgcg gcccaagctg tctgaggagc 480
agcagcgcat cattgccata ctgctggacg cccaccataa gacctacgac cccacctact 540
ccgacttctg ccagttccgg cctccagttc gtgtgaatga tgggtggagg agccatcctt 600
ccaggcccaa ctccagacac actcccagct tctctgggga ctctctctcc tctgtctcag 660
atcactgtat cacctcttca gacatgatgg actcgtccag cttctccaat ctggatctga 720
gtgaagaaga ttcagatgac ctttctgtga ccctagagct gtcccagctc tccatgtctg 780
cccacctggc tgacctgggt agttacagca tccaaaaggt cattggcttt gctaagatga 840
taccaggatt cagagacctc acctctgagg accagatcgt actgctgaag tcaagtgcc 900
ttgaggtcat catgttgccg tccaatgagt ccttcaccat ggacgacatg tcttggaact 960
gtggcaacca agactacaag taccgcgtca gtgacgtgac caaagccgga cacagcctgg 1020
agctgattga gccctcctc aagttccagg tgggactgaa gaagctgaac ttgcatgagg 1080
aggagcatgt cctgtctcat gccatctgca tctgtctccc agatcgtcct ggggtgcagg 1140
acgccgcgct gattgaggcc atccaggacc gcctgtccaa cacactgcag acgtacatcc 1200
gctgccgcca cccgcccccc ggcagccacc tgcctctatgc caagatgata cagaagctag 1260
ccgacctgcg cagcctcaat gaggagcact ccaagcagta ccgctgcctc tcttccagc 1320
ctgagtgcag catgaagcta acgccccctg tgctcgaagt gtttggcaat gagatctcct 1380
ga 1382

SEQ ID NO: 4
<211> 1534
<212> DNA
<213> Homo sapiens

<400> 4
gtttccttct tctgtcgggg cgccttggca tggagtggag gaataagaaa aggagcgatt 60
ggctgtcgat ggtgctcaga actgctggag tggaggggat ggaggcaatg gcggccagca 120
cttccctgcc tgacctgga gactttgacc ggaacgtgcc ccgatctgt ggggtgtgtg 180
gagaccgagc cactggcttt cacttcaatg ctatgacctg tgaaggctgc aaaggcttct 240
tcaggtgagc cccctccca ggctctccc agtggaaagg gagggagaag aagcaagggtg 300
tttccatgaa gggagccctt gcatttttca catctccttc cttacaatgt ccatggaaca 360
tgccgcgctc acagccacag gagcaggagg gtcttggcga agcatgaagc ggaaggcact 420
attcacctgc cccttcaacg gggactgccg catcaccaag gacaaccgac gccactgcca 480
ggcctgcccg ctcaaacgct gtgtggacat cggcatgatg aaggagttca ttctgacaga 540
tgagggaagt cagaggaagc gggagatgat cctgaagcgg aaggaggagg aggccttgaa 600
ggacagtctg cggcccaagc tgtctgagga gcagcagcgc atcattgcca tactgtctga 660
cgcccacat aagacctacg accccacctc ctccgacttc tgccagttcc ggccctccagt 720
tcgtgtgaat gatggtggag ggagccatcc ttccaggccc aactccagac acactcccag 780
cttctctggg gactcctcct cctcctgctc agatcactgt atcacctctt cagcatgat 840
ggactcgtcc agcttctcca atctggatct gagtgaagaa gattcagatg acccttctgt 900
gacctagag ctgtcccagc tctccatgct gcccacctg gctgacctgg tcagttacag 960
catccaaaag gtcattggct ttgctaagat gataccagga ttcagagacc tcacctctga 1020
ggaccagatc gtactgtctga agtcaagtgc cattgaagtc atcatgttgc gctccaatga 1080
gtccttcacc atggacgaca tgtcctggac ctgtggcacc caagactaca agtaccgcgt 1140
cagtgcagtg accaaagccg gacacagcct ggagctgatt gagccccca tcaagttcca 1200
ggtgggactg aagaagctga acttgcatga ggaggagcat gtccctgctca tggccatctg 1260
catcgtctcc ccagatcgtc ctgggggtgca ggacgccgg ctgattgagg ccatccagga 1320

```

ccgcctgtcc aacacactgc agacgtacat ccgctgccgc caccgcgcc cgggcagcca 1380
cctgctctat gccagatga tccagaagct agccgacctg cgcagcctca atgaggagca 1440
ctccaagcag taccgtgccc tctccttcca gcctgagtgc agcatgaagc taacgcccct 1500
tgtgctcgaa gtgtttggca atgagatctc ctga 1534

```

SEQ ID NO: 5
 <211> 207
 <212> DNA
 <213> Homo sapiens

```

<400> 5
tgcgaccttg gcggtgagcc tggggacagg ggtgaggcca gagacggacg gacgcagggg 60
cccggcccaa ggcgagggag aacagcggca ctaaggcaga aaggaagagg gcggtgtgtt 120
caccgcagc ccaatccatc actcagcaac tcctagacgc tggtagaaag ttcctccgag 180
gagcctgcca tccagtcgtg cgtgcag 207

```

SEQ ID NO: 6
 <211> 157
 <212> DNA
 <213> Homo sapiens

```

<400> 6
aggcagcatg aaacagtggg atgtgcagag agaagatctg ggtccagtag ctctgacact 60
cctcagctgt agaaaccttg acaactctgc acatcagttg tacaatggaa cgggtattttt 120
tactcttcat gtctgaaaag gctatgataa agatcaa 157

```

SEQ ID NO: 7
 <211> 1574
 <212> DNA
 <213> Homo sapiens

```

<400> 7
tgcgaccttg gcggtgagcc tggggacagg ggtgaggcca gagacggacg gacgcagggg 60
cccggcccaa ggcgagggag aacagcggca ctaaggcaga aaggaagagg gcggtgtgtt 120
caccgcagc ccaatccatc actcagcaac tcctagacgc tggtagaaag ttcctccgag 180
gagcctgcca tccagtcgtg cgtgcagaa cctttgggtc tgaagtgtct gtgagacctc 240
acagaagagc acccctgggc tccacttacc tgccccctgc tccttcaggg atggaggcaa 300
tggcgccag cacttccttg cctgacctg gagacttga ccggaacgtg ccccgatct 360
gtggggtgtg tggagaccga gccactggct ttcacttcaa tgctatgacc tgtgaaggct 420
gcaaaggctt cttcaggcga agcatgaagc ggaaggcact attcacctgc cccttcaacg 480
gggactgccg catcaccaag gacaaccgac gccactgcca ggcctgccgg ctcaaacgct 540
gtgtggacat cggcatgatg aaggagttca ttctgacaga tgaggaaagt cagaggaagc 600
gggagatgat cctgaagcgg aaggaggagg aggccttgaa ggacagtctg cggcccaagc 660
tgtctgagga gcagcagcgc atcattgcca tactgtctgga cgcccaccat aagacctacg 720
acccaccta ctccgacttc tgccagttcc ggctccagc tcgtgtgaat gatggtggag 780
ggagccatcc ttccaggccc aactccagac acactcccag cttctctggg gactcctcct 840
cctcctgctc agatcactgt atcacctctt cagacatgat ggactcgtcc agcttctcca 900
atctggatct gagtgaagaa gattcagatg acccttctgt gaccctagag ctgtcccagc 960
tctccatgct gcccacctg gctgacctgg tcagttacag catccaaaag gtcattggct 1020
ttgctaagat gataccagga ttcagagacc tcacctctga ggaccagatc gtactgctga 1080
agtcaagtgc cattgaggtc atcatgttgc gctccaatga gtccttcacc atggacgaca 1140
tgtcctggac ctgtggcaac caagactaca agtaccgctg cagtgcagtg accaaagccg 1200
gacacagcct ggagctgatt gagccctca tcaagttcca ggtgggactg aagaagctga 1260
acttgcatga ggaggagcat gtccctgctca tggccatgtg catcgtctcc ccagatcgtc 1320
ctggggtgca ggacgccgag ctgattgagg ccatccagga ccgcctgtcc aacacactgc 1380
agacgtacat ccgctgccgc caccgcgcc cgggcagcca cctgctctat gccaaagtga 1440
tccagaagct agccgacctg cgcagcctca atgaggagca ctccaagcag taccgctgcc 1500

```

23

tctccttcca gcctgagtgc agcatgaagc taacgcccct tgtgctcgaa gtgtttggca 1560
atgagatctc ctga 1574

SEQ ID NO: 8
<211> 122
<212> DNA
<213> Homo sapiens

<400> 8
ggctcctgaa cctagcccag ctggacggag aaatggactc tagcctctc tgatagcctc 60
atgccaggcc ccgtgcacat tgccttgctt gcctccctca atcctcatag cttctctttg 120
gg 122

SEQ ID NO: 9
<211> 477
<212> PRT
<213> Homo sapiens

<400> 9
Met Glu Trp Arg Asn Lys Lys Arg Ser Asp Trp Leu Ser Met Val Leu
1 5 10 15
Arg Thr Ala Gly Val Glu Glu Ala Phe Gly Ser Glu Val Ser Val Arg
20 25 30
Pro His Arg Arg Ala Pro Leu Gly Ser Thr Tyr Leu Pro Pro Ala Pro
35 40 45
Ser Gly Met Glu Ala Met Ala Ala Ser Thr Ser Leu Pro Asp Pro Gly
50 55 60
Asp Phe Asp Arg Asn Val Pro Arg Ile Cys Gly Val Cys Gly Asp Arg
65 70 75 80
Ala Thr Gly Phe His Phe Asn Ala Met Thr Cys Glu Gly Cys Lys Gly
85 90 95
Phe Phe Arg Arg Ser Met Lys Arg Lys Ala Leu Phe Thr Cys Pro Phe
100 105 110
Asn Gly Asp Cys Arg Ile Thr Lys Asp Asn Arg Arg His Cys Gln Ala
115 120 125
Cys Arg Leu Lys Arg Cys Val Asp Ile Gly Met Met Lys Glu Phe Ile
130 135 140
Leu Thr Asp Glu Glu Val Gln Arg Lys Arg Glu Met Ile Leu Lys Arg
145 150 155 160
Lys Glu Glu Glu Ala Leu Lys Asp Ser Leu Arg Pro Lys Leu Ser Glu
165 170 175
Glu Gln Gln Arg Ile Ile Ala Ile Leu Leu Asp Ala His His Lys Thr
180 185 190
Tyr Asp Pro Thr Tyr Ser Asp Phe Cys Gln Phe Arg Pro Pro Val Arg
195 200 205

005160 23760560

Val Asn Asp Gly Gly Gly Ser His Pro Ser Arg Pro Asn Ser Arg His
 210 215 220
 Thr Pro Ser Phe Ser Gly Asp Ser Ser Ser Ser Cys Ser Asp His Cys
 225 230 235 240
 Ile Thr Ser Ser Asp Met Met Asp Ser Ser Ser Phe Ser Asn Leu Asp
 245 250 255
 Leu Ser Glu Glu Asp Ser Asp Asp Pro Ser Val Thr Leu Glu Leu Ser
 260 265 270
 Gln Leu Ser Met Leu Pro His Leu Ala Asp Leu Val Ser Tyr Ser Ile
 275 280 285
 Gln Lys Val Ile Gly Phe Ala Lys Met Ile Pro Gly Phe Arg Asp Leu
 290 295 300
 Thr Ser Glu Asp Gln Ile Val Leu Leu Lys Ser Ser Ala Ile Glu Val
 305 310 315 320
 Ile Met Leu Arg Ser Asn Glu Ser Phe Thr Met Asp Asp Met Ser Trp
 325 330 335
 Thr Cys Gly Asn Gln Asp Tyr Lys Tyr Arg Val Ser Asp Val Thr Lys
 340 345 350
 Ala Gly His Ser Leu Glu Leu Ile Glu Pro Leu Ile Lys Phe Gln Val
 355 360 365
 Gly Leu Lys Lys Leu Asn Leu His Glu Glu Glu His Val Leu Leu Met
 370 375 380
 Ala Ile Cys Ile Val Ser Pro Asp Arg Pro Gly Val Gln Asp Ala Ala
 385 390 395 400
 Leu Ile Glu Ala Ile Gln Asp Arg Leu Ser Asn Thr Leu Gln Thr Tyr
 405 410 415
 Ile Arg Cys Arg His Pro Pro Pro Gly Ser His Leu Leu Tyr Ala Lys
 420 425 430
 Met Ile Gln Lys Leu Ala Asp Leu Arg Ser Leu Asn Glu Glu His Ser
 435 440 445
 Lys Gln Tyr Arg Cys Leu Ser Phe Gln Pro Glu Cys Ser Met Lys Leu
 450 455 460
 Thr Pro Leu Val Leu Glu Val Phe Gly Asn Glu Ile Ser
 465 470 475

005T60-23460560

SEQ ID NO: 10
<211> 450
<212> PRT
<213> Homo sapiens

<400> 10

Met Glu Trp Arg Asn Lys Lys Arg Ser Asp Trp Leu Ser Met Val Leu
1 5 10 15
Arg Thr Ala Gly Val Glu Gly Met Glu Ala Met Ala Ala Ser Thr Ser
20 25 30
Leu Pro Asp Pro Gly Asp Phe Asp Arg Asn Val Pro Arg Ile Cys Gly
35 40 45
Val Cys Gly Asp Arg Ala Thr Gly Phe His Phe Asn Ala Met Thr Cys
50 55 60
Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Met Lys Arg Lys Ala Leu
65 70 75 80
Phe Thr Cys Pro Phe Asn Gly Asp Cys Arg Ile Thr Lys Asp Asn Arg
85 90 95
Arg His Cys Gln Ala Cys Arg Leu Lys Arg Cys Val Asp Ile Gly Met
100 105 110
Met Lys Glu Phe Ile Leu Thr Asp Glu Glu Val Gln Arg Lys Arg Glu
115 120 125
Met Ile Leu Lys Arg Lys Glu Glu Glu Ala Leu Lys Asp Ser Leu Arg
130 135 140
Pro Lys Leu Ser Glu Glu Gln Gln Arg Ile Ile Ala Ile Leu Leu Asp
145 150 155 160
Ala His His Lys Thr Tyr Asp Pro Thr Tyr Ser Asp Phe Cys Gln Phe
165 170 175
Arg Pro Pro Val Arg Val Asn Asp Gly Gly Gly Ser His Pro Ser Arg
180 185 190
Pro Asn Ser Arg His Thr Pro Ser Phe Ser Gly Asp Ser Ser Ser Ser
195 200 205
Cys Ser Asp His Cys Ile Thr Ser Ser Asp Met Met Asp Ser Ser Ser
210 215 220
Phe Ser Asn Leu Asp Leu Ser Glu Glu Asp Ser Asp Asp Pro Ser Val
225 230 235 240
Thr Leu Glu Leu Ser Gln Leu Ser Met Leu Pro His Leu Ala Asp Leu
245 250 255
Val Ser Tyr Ser Ile Gln Lys Val Ile Gly Phe Ala Lys Met Ile Pro
260 265 270
Gly Phe Arg Asp Leu Thr Ser Glu Asp Gln Ile Val Leu Leu Lys Ser
275 280 285

005760-22460560

26

Ser Ala Ile Glu Val Ile Met Leu Arg Ser Asn Glu Ser Phe Thr Met
 290 295 300
 Asp Asp Met Ser Trp Thr Cys Gly Asn Gln Asp Tyr Lys Tyr Arg Val
 305 310 315 320
 Ser Asp Val Thr Lys Ala Gly His Ser Leu Glu Leu Ile Glu Pro Leu
 325 330 335
 Ile Lys Phe Gln Val Gly Leu Lys Lys Leu Asn Leu His Glu Glu Glu
 340 345 350
 His Val Leu Leu Met Ala Ile Cys Ile Val Ser Pro Asp Arg Pro Gly
 355 360 365
 Val Gln Asp Ala Ala Leu Ile Glu Ala Ile Gln Asp Arg Leu Ser Asn
 370 375 380
 Thr Leu Gln Thr Tyr Ile Arg Cys Arg His Pro Pro Pro Gly Ser His
 385 390 395 400
 Leu Leu Tyr Ala Lys Met Ile Gln Lys Leu Ala Asp Leu Arg Ser Leu
 405 410 415
 Asn Glu Glu His Ser Lys Gln Tyr Arg Cys Leu Ser Phe Gln Pro Glu
 420 425 430
 Cys Ser Met Lys Leu Thr Pro Leu Val Leu Glu Val Phe Gly Asn Glu
 435 440 445
 Ile Ser
 450

SEQ ID NO: 11
 <211> 72
 <212> PRT
 <213> Homo sapiens

<400> 11
 Met Glu Trp Arg Asn Lys Lys Arg Ser Asp Trp Leu Ser Met Val Leu
 1 5 10 15
 Arg Thr Ala Gly Val Glu Gly Met Glu Ala Met Ala Ala Ser Thr Ser
 20 25 30
 Leu Pro Asp Pro Gly Asp Phe Asp Arg Asn Val Pro Arg Ile Cys Gly
 35 40 45
 Val Cys Gly Asp Arg Ala Thr Gly Phe His Phe Asn Ala Met Thr Cys
 50 55 60
 Glu Gly Cys Lys Gly Phe Phe Arg
 65 70

005160-28160560

SEQ ID NO: 12

<211> 427

<212> PRT

<213> Homo sapiens

<400> 12

Met Glu Ala Met Ala Ala Ser Thr Ser Leu Pro Asp Pro Gly Asp Phe
1 5 10 15Asp Arg Asn Val Pro Arg Ile Cys Gly Val Cys Gly Asp Arg Ala Thr
20 25 30Gly Phe His Phe Asn Ala Met Thr Cys Glu Gly Cys Lys Gly Phe Phe
35 40 45Arg Arg Ser Met Lys Arg Lys Ala Leu Phe Thr Cys Pro Phe Asn Gly
50 55 60Asp Cys Arg Ile Thr Lys Asp Asn Arg Arg His Cys Gln Ala Cys Arg
65 70 75 80Leu Lys Arg Cys Val Asp Ile Gly Met Met Lys Glu Phe Ile Leu Thr
85 90 95Asp Glu Glu Val Gln Arg Lys Arg Glu Met Ile Leu Lys Arg Lys Glu
100 105 110Glu Glu Ala Leu Lys Asp Ser Leu Arg Pro Lys Leu Ser Glu Glu Gln
115 120 125Gln Arg Ile Ile Ala Ile Leu Leu Asp Ala His His Lys Thr Tyr Asp
130 135 140Pro Thr Tyr Ser Asp Phe Cys Gln Phe Arg Pro Pro Val Arg Val Asn
145 150 155 160Asp Gly Gly Gly Ser His Pro Ser Arg Pro Asn Ser Arg His Thr Pro
165 170 175Ser Phe Ser Gly Asp Ser Ser Ser Ser Cys Ser Asp His Cys Ile Thr
180 185 190Ser Ser Asp Met Met Asp Ser Ser Ser Phe Ser Asn Leu Asp Leu Ser
195 200 205Glu Glu Asp Ser Asp Asp Pro Ser Val Thr Leu Glu Leu Ser Gln Leu
210 215 220Ser Met Leu Pro His Leu Ala Asp Leu Val Ser Tyr Ser Ile Gln Lys
225 230 235 240Val Ile Gly Phe Ala Lys Met Ile Pro Gly Phe Arg Asp Leu Thr Ser
245 250 255Glu Asp Gln Ile Val Leu Leu Lys Ser Ser Ala Ile Glu Val Ile Met
260 265 270Leu Arg Ser Asn Glu Ser Phe Thr Met Asp Asp Met Ser Trp Thr Cys
275 280 285

005460-2460560

WO 99/16872

28

Gly Asn Gln Asp Tyr Lys Tyr Arg Val Ser Asp Val Thr Lys Ala Gly
 290 295 300
 His Ser Leu Glu Leu Ile Glu Pro Leu Ile Lys Phe Gln Val Gly Leu
 305 310 315 320
 Lys Lys Leu Asn Leu His Glu Glu Glu His Val Leu Leu Met Ala Ile
 325 330 335
 Cys Ile Val Ser Pro Asp Arg Pro Gly Val Gln Asp Ala Ala Leu Ile
 340 345 350
 Glu Ala Ile Gln Asp Arg Leu Ser Asn Thr Leu Gln Thr Tyr Ile Arg
 355 360 365
 Cys Arg His Pro Pro Pro Gly Ser His Leu Leu Tyr Ala Lys Met Ile
 370 375 380
 Gln Lys Leu Ala Asp Leu Arg Ser Leu Asn Glu Glu His Ser Lys Gln
 385 390 395 400
 Tyr Arg Cys Leu Ser Phe Gln Pro Glu Cys Ser Met Lys Leu Thr Pro
 405 410 415
 Leu Val Leu Glu Val Phe Gly Asn Glu Ile Ser
 420 425

00542-0430